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Notice of Allowability	Application No.	Applicant(s)	
	10/633,434	KIM ET AL.	
	Examiner	Art Unit	
	Hsien-ming Lee	2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/8/04 and 12/6/04.
2. ☒ The allowed claim(s) is/are 1-36 and 64-75.
3. ☒ The drawings filed on 01 August 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

HSIEN-MING LEE
PRIMARY EXAMINER
 Hsien-ming Lee
 Primary Examiner
 Art Unit: 2823
2/3/05

DETAILED ACTION

Remarks

1. Applicant's RCE filing on 12/6/2004 is acknowledged. Claims 1-36 and 64-75 are pending in the application.

Allowable Subject Matter

2. Claims 1-36 and 64-75 are allowed.
3. The following is an examiner's statement of reasons for allowance:

The prior art of record, Cobbley et al. (US 2002/0068379), teaches a related art, comprising:

- a lead frame 112 comprising a plurality of lead fingers 128, a plurality of interconnect bonding sites (i.e. the opposite portion with respect to terminal bonding sites 138) on the lead fingers 128 (Fig.5), a plurality of terminal bonding sites 138 in an area array and at least one bus bar 132 in the area array;
- a semiconductor die 110 comprising a circuit side (i.e. front face 114 of the die 110), a plurality of die contacts 116 (i.e. bond pads) on the circuit side; and
- a plurality of interconnects 130 (i.e. bond wires) bonded to the die contacts 116.

In contrast, Cobbley et al. at least neither teach nor suggest that a plurality of *terminal bonding sites* on the top portions on the *second* surface (claim 1), wherein the second surface is *opposing* to a first surface; a plurality of *terminal contacts* attached to *terminal bonding sites* (claim 1); a semiconductor die having a *back* side *attached to leadfingers on a first side* and substantially covering a bus bar and an *encapsulant encapsulating a die, interconnects and a leadframe* (claim 5); a semiconductor die comprising a circuit side, a plurality of die contacts on

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the circuit side and a *back side attached to a leadframe* and a plurality of *terminal contacts on terminal bonding sites* (claim 14); a plurality of *terminal bonding sites* on the leadfingers on the *opposing second side in an area array* (claim 20); a semiconductor die having a *back side attached to die mounting side* and a leadframe comprising a plurality of leadfingers having tip portions configured *to form the die mounting sit* on a *first side* (claim 27); and a plurality of terminal bonding sites on an *opposing second surface* of leadfingers in an area array and a semiconductor die *back bonded* to the leadfingers substantially covering a bus bar (claims 64 and 70).

Therefore, the instant invention is neither anticipated nor rendered obvious over the prior art of record.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hsien-ming Lee whose telephone number is 571-272-1863. The examiner can normally be reached on Tuesday-Thursday (8:00 ~ 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hsien-ming Lee
Primary Examiner
Art Unit 2823

Feb 3, 2005

HSIEN-MING LEE
PRIMARY EXAMINER

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2/3/2005